WHAT IS CLAIMED IS:

1. A process for the removal of sulfur-oxidated compounds from a hydrocarbonaceous stream containing sulfur-oxidated compounds wherein the process comprises:

(a) contacting a hydrocarbonaceous stream containing sulfur-oxidated compounds with an adsorbent which selectively adsorbs sulfur-oxidated compounds to produce an adsorbent having adsorbed sulfur-oxidated compounds;

(b) contacting the adsorbent having adsorbed sulfur-oxidated compounds with a desorbent to produce a desorbent containing sulfur-oxidated compounds and an adsorbent having a reduced content of sulfur-oxidated compounds;

(c) contacting the adsorbent from step (b) with a hydrocarbonaceous stream containing sulfur-oxidated compounds;

(d) fractionating the desorbent containing sulfur-oxidated compounds from step (b) to recover a desorbent having a reduced concentration of sulfur-oxidated compounds; and

(e) recovering a hydrocarbonaceous stream containing a reduced concentration of sulfur-oxidated compounds.

2. The process of claim 1 wherein the hydrocarbonaceous stream containing sulfur-oxidated compounds boils in the range from about 149°C (300°F) to about 538°C (1000°F).

3. The process of claim 1 wherein the sulfur-oxidated compounds are selected from the group consisting of sulfoxides and sulfones.

4. The process of claim 1 wherein the adsorbent is selected from the group consisting essentially of activated charcoal, hydrotalcite, ion exchange resin, zeolites, silica-alumina, and silica gel.

5. The process of claim 1 wherein the adsorbent having adsorbed sulfur-oxidated compounds contains from about 0.2 to about 2 weight percent sulfur-oxidated compounds.

6. The process of claim 1 wherein the contacting in step (a) is conducted at a temperature from about 25°C (77°F) to about 125°C (257°F) and a pressure from about 1240 kPa (165 psig) to about 1825 kPa (250 psig).

7. The process of claim 1 wherein the desorbent in step (b) is introduced at a temperature from about 43°C (110°F) to about 125°C (257°F).

8. The process of claim 1 wherein the desorbent comprises pentane, hexane, benzene, toluene, or xylene.

9. The process of claim 1 wherein the fractionating in step (d) is conducted in a split shell fractionation zone.

10. The process of claim 1 wherein at least a portion of the desorbent having a reduced concentration of sulfur-oxidated compounds recovered in step (d) is recycled to step (b).

11. The process of claim 1 wherein the hydrocarbonaceous stream comprises diesel boiling range hydrocarbons.

12. A process for the removal of sulfur-oxidated compounds from a hydrocarbonaceous stream containing sulfur-oxidated compounds wherein the process comprises:

(a) contacting a hydrocarbonaceous stream containing sulfur-oxidated compounds with an adsorbent which selectively adsorbs sulfur-oxidated compounds to produce an adsorbent having adsorbed sulfur-oxidated compounds;

(b) contacting the adsorbent having adsorbed sulfur-oxidated compounds with a purge stream to displace interstitial hydrocarbons;

(c) contacting the adsorbent having adsorbed sulfur-oxidated compounds from step (b) with a desorbent to produce a desorbent containing sulfur-

oxidated compounds and an adsorbent having a reduced content of sulfur-oxidated compounds;

(d) contacting the adsorbent from step (c) with a hydrocarbonaceous stream containing sulfur-oxidated compounds;

(e) fractionating the desorbent containing sulfur-oxidated compounds from step (c) to recover a desorbent having a reduced concentration of sulfur-oxidated compounds; and

(f) recovering a hydrocarbonaceous stream containing a reduced concentration of sulfur-oxidated compounds.

13. The process of claim 12 wherein the hydrocarbonaceous stream boils in the range from about 149°C (300°F) to about 538°C (1000°F).

14. The process of claim 12 wherein the sulfur-oxidated compounds are selected from the group consisting of sulfoxides and sulfones.

15. The process of claim 12 wherein the adsorbent is selected from the group consisting essentially of activated charcoal, hydrotalcite, in exchange resin, zeolites, silica-alumina, and silica gel.

16. The process of claim 12 wherein the adsorbent having adsorbed sulfur-oxidated compounds contains from about 0.2 to about 2 weight percent sulfur-oxidated compounds.

17. The process of claim 12 wherein the contacting in step (a) is conducted at a temperature from about 25°C (77°F) to about 125°C (257°F) and a pressure from about 1240 kPa (165 psig) to about 1825 kPa (250 psig).

18. The process of claim 12 wherein the desorbent in step (c) is introduced at a temperature from about 43°C (110°F) to about 125°C (257°F).

19. The process of claim 12 wherein the desorbent comprises pentane, hexane, benzene, toluene, or xylene.

20. The process of claim 12 wherein the fractionating in step (e) is conducted in a split shell fractionation zone.

21. The process of claim 12 wherein at least a portion of the desorbent having a reduced concentration of sulfur-oxidated compounds recovered in step (e) is recycled to step (c).

22. The process of claim 12 wherein the hydrocarbonaceous stream comprises diesel boiling range hydrocarbons.

23. The process of claim 12 wherein the purge stream boils in a temperature range lower than that of the desorbent.

24. The process of claim 12 wherein the purge stream comprises pentane or hexane.

25. The process of claim 12 wherein an exiting purge stream is fractionated in a split shell fractionation zone.

26. The process of claim 25 wherein at least a portion of the exiting purge stream is recycled to step (b).

27. A process for the removal of sulfur-oxidated compounds from a hydrocarbonaceous stream containing sulfur-oxidated compounds wherein the process comprises:

(a) contacting a hydrocarbonaceous stream containing sulfur-oxidated compounds with an adsorbent which selectively adsorbs sulfur-oxidated compounds to produce an adsorbent having adsorbed sulfur-oxidated compounds;

(b) contacting the adsorbent having adsorbed sulfur-oxidated compounds with a purge stream to displace interstitial hydrocarbons;

(c) contacting the adsorbent having adsorbed sulfur-oxidated compounds from step (b) with a desorbent to produce a desorbent containing sulfur-oxidated compounds and an adsorbent having a reduced content of sulfur-oxidated compounds;

(d) contacting the adsorbent from step (c) with a hydrocarbonaceous stream containing sulfur-oxidated compounds;

(e) fractionating the desorbent containing sulfur-oxidated compounds from step (c) to recover a desorbent having a reduced concentration of sulfur-oxidated compounds;

(f) fractionating the purge stream from step (b) to recover a purge liquid having a reduced concentration of interstitial hydrocarbons; and

(g) recovering a hydrocarbonaceous stream containing a reduced concentration of sulfur-oxidated compounds.